CLAIMS

1. A system of detecting radio frequency interference and correcting damaged composite video data signal, comprising:

a detection unit, for receiving composite video signal and for detecting whether interference causes damage to the received composite video data signal and for identifying damaged portion of the composite video data signal;

a correction unit, coupled to the detection unit, for correcting the damaged portion of the composite video data signal.

2. The system of claim 1, further comprising:

a transmission end for generating the composite video signal and transmitting the composite video signal to the detection unit.

3. The system of claim 2, wherein the transmission end comprises:

a video sensor for capturing video image;

an encoder, coupled to the video sensor, for converting captured video image into the composite video data signal; and

a transmitter, coupled to the encoder, for transmitting composite video data signal to the detection unit.

4. The system of claim 3, wherein the transmission end further comprises:

a microphone for recording audio signal and for transmitting audio signal to the transmitter.

5. The system of claim 3, wherein the composite video data signal is a NTSC compliant video signal.

6. The apparatus of claim 3, wherein the composite video data signal is a PAL compliant video signal.

7. The system of claim 1, wherein the detection unit comprises:

a receiver module, for receiving the composite video data signal;

a bad-line detector, coupled to the receiver module, for determining if the composite video data signal have been damaged by detecting if predetermined portion of the composite video data signal is present and generating a detection flag to indicate the damaged video data signal;

a video decoder, coupled to the receiver module, for converting the composite video data signal into component video data signal;

a line flattener, coupled to the video decoder and the bad-line detector, for receiving the detection flag and for modifying corresponding damaged portion of component video data to a predetermined value.

8. The system of claim 7, further comprising:

a mute control module, coupled to the receiver module and the bad-line detector, for muting audio signals associated with damaged portion of composite video signal in response to receiving the detection flag from the bad-line detector.

9. The system of claim 8, further comprising:

a video compressor, coupled to the line flattener, for compressing the component video data and transmitting to the correction unit.

10. The system of claim 7, wherein the bad-line detector comprises:

a filter for receiving the composite video data signal from the receiver module and for outputting the color burst signal of the composite video data signal;

a color burst processing module, coupled to the filter, for amplifying and converting the color burst signal into a color burst square wave;

a synchronization detector, coupled to the receiver module, for detecting and outputting the horizontal synchronization signal in the composite video data signal; and

a logic unit, coupled to the color burst processing module and the synchronization detector, for detecting if the color burst signal and the horizontal synchronization signal have been damaged by interference and for generating the detection flag in response to determination of the damage caused by interference.

11. The system of claim 10, wherein the logic unit counts the number of color burst edges in the color burst square wave.

12. The system of claim 10, wherein the logic unit detects if the horizontal synchronization signal of each composite video line has a rising edge at a first predetermined time.

13. The system of claim 10, wherein the logic unit detects if the horizontal synchronization signal of each composite video line has a falling edge at a second predetermined time.

14. The system of claim 10, wherein the detection flag is a bad-line flag.

15. The system of claim 1, wherein the correction unit comprises:

a video decompressor, coupled to the detection unit, for storing video data corresponding to the composite video data signal and for decompressing the stored video data wherein the stored video data correspond to video frames;

a bad-line logic, coupled to the video compressor, for identifying the damaged portion in the stored video data, the damaged portion being detected and marked by the detection unit;

a bad-line replacement module, coupled to the video decompressor and the bad-line logic, for replacing damaged portion in the stored video data with good video data; and

16. The system of claim 15, further comprising:

an audio stream assembly, coupled to the detection unit, for transferring audio signals in the composite video data signal;

an audio delay module, coupled to the audio stream assembly, for delaying audio signals; and

an audio driver backend, coupled to the audio delay module, for transferring delayed audio signals to an audio processing module.

17. The system of claim 15, further comprising:

a video driver backend, coupled to the bad-line replacement module, for transferring repaired video data to a video application processing module.

18. The system of claim 15, wherein the bad-line replacement module comprises:

a plurality of buffers, for storing the video data;

an input multiplexer, coupled to each of the plurality of buffers, for receiving the video data and selecting one of the plurality of the buffers to store video data corresponding to one video frame; and

an output multiplexer, coupled to each of the plurality of buffers, for selecting one of the plurality of the buffers to output video data corresponding to one video frame.

19. A method of detecting external interference within a composite video signal representing a line on a video image, comprising the steps of:

receiving the composite video signal;

detecting whether a color burst pulse is damaged in the composite video signal; and

generating a detection flag in response to the condition of the color burst in the composite video signal.

20. The method of claim 19, further comprising:

detecting whether a horizontal synchronization pulse is damaged in the composite video signal.

21. A method of correcting corrupted video data which represent a target line on a first video frame to be displayed, comprising the steps of:

storing the corrupted video data representing the first video frame and video data representing a second video frame which is temporally closest to the first video frame, the target line on the first video frame having at least one matching line on the second video frame;

determining whether a portion of the video data representing the matching line on the second frame is corrupted; and

replacing the corrupted video data representing the target line on the first video frame with the video data representing the matching line on the second frame in response to the portion of the video data representing the matching line on the second frame being not corrupted.

22. The method of claim 21, further comprising the steps of:

storing a video data representing a third video frame, which is temporally closest to the first video frame, the target line on the first video frame having at least one matching line on the third video frame;

determining whether the portion of the video data representing the matching line on the third frame is corrupted in response to the determination of the condition of the portion of the video data representing the matching line on the second video frame; and

replacing the corrupted video data representing the target line on the first video frame with the video data representing the matching line on the third video frame in response to the portion of the video data representing the matching line on the third video frame being not corrupted.